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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,765	10/29/2003	Francois Paul	4590-227	5287

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EXAMINER	
CHEEMA, UMAR	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/694,765	PAUL, FRANCOIS	
	Examiner	Art Unit	
	Umar Cheema	2109	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/06/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 02/06/2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, **range of visibility, graph of competition, AND if n>Nmax, OR if n=<Nmax, and two stations Si and Sj are in competition, SiCSj if and only if**

(SiRSj and (NOT SjRSi))

or (SjRSi and (NOT SiRSj))

or (∃ Sk such that SkRSi AND SkRSj AND NOT (SiRSj and SjRSi)) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Punkaj et al (US 6,229,795) in view of Schaeffer et al (US 5,455,821).

Regarding claim 1, Pankaj et al teach a method for the allocation of resources in a communications system comprising several stations, at least two of which are not within range of visibility, the method comprising the following steps: defining a graph of competition between the different stations;

assigning time intervals to each station in making successive passages on all the stations and carrying out the following steps at each passage and for each station (col. 1, lines 34-49):

E is an interval of given time interval numbers (col. 12, lines 55-57); n is the smallest natural integer that does not belong to the interval E (col. 12, lines 58-59);

if it is not the first passage AND if n>Nmax, then no time interval whatsoever is added to the station Si (fig. 5, col. 8, lines 5-20, col. 9, lines 27-42);

if it is the first passage OR if n=<Nmax, then n is added to the time intervals assigned to Si (fig. 7 (a-b), col. 11, lines 55-67, col. 12, lines 3-34);

the loop of the passages is continued on all the stations:

if, during a passage, no time interval has been added to any station, then no other passage is made; if, during a passage, at least one time interval has been added, then a new passage is executed (fig. 6 (a-c), col. 11, 12-54).

Pankaj et al **do not teach** a method for the allocation of resources in a communications system comprising several stations, at least two of which are not within range of visibility, the method comprising the following steps: defining a graph of competition between the different stations.

However in the same field of invention, Schaeffer et al teach a method for the allocation of resources in a communications system comprising several stations (abstract, col. 3, lines 9-25), at least two of which are not within range of visibility (col. 1, lines 12-24), the method comprising the following steps: defining a graph of competition between the different stations (col. 2, lines 21-30).

Therefore it would have been obvious to one of the ordinary skill in the art of the invention to combine the teaching of Pankaj et al and Schaeffer et al for a method for the allocation of resources in a communications system comprising several stations. It is beneficial because it provides for initial resource allocation as well as periodic system returning for enhanced system operation and efficiency.

Regarding claim 2, Pankaj et al teach the method according to claim 1, wherein the interval E corresponds to a combination of the time interval numbers already assigned to a station Si during preceding passages (col. 12, lines 55-67) and time intervals already assigned to the stations Sj which are related to Si by a particular relationship

known as a relationship of competition (col. 13, lines 1-15).

Regarding to claim 3, the combination of Pankaj et al and Schaeffer et al teach the method according to claim 1, wherein the graph of the relationship of competition (Schaeffer: col. 2, lines 21-30) is set up according to the following steps: from a relationship of visibility written as R, a relationship of competition between stations, referenced C, is determined as follows (Punkaj: col. 6, lines 47-65):

two stations Si and Sj are in competition, SiCSj if and only if

(SiRSj and (NOT SjRSi))

or

(SjRSi and (NOT SiRSj))

or

(∃ Sk such that SkRSi AND SkRSj AND NOT (SiRSj and SjRSi)) (Punkaj: col. 7, lines 1-24, col. 7-8, lines 65-67, 1-20).

Regarding to claim 4, Punkaj et al teach the method according to claim 1, further comprising the following steps:

a) encoding the identifier I of each of the stations, on a number n of bits b1,b2, . . . bn, using two symbols corresponding respectively to a reception state and to a transmission state (col. 4, lines 46-65);

b) for any unspecified station Si, during an attempt to make transmission, starting at a given identification slot (col. 13, lines 1-15);

b.1) for i varying from 1 to n, b.1.1) if the value of bi is equal to the symbol corresponding to the reception state, the station Si receives during the slot k+i-1: if the station Si detects a signal sent by another station it considers itself not to be chosen; if the station Si detects nothing, the station Si continues to scan the bits bi (col. 8, lines 1-20),

b.1.2) if the value of bi is equal to the symbol corresponding to the transmission state, the station transmits during the slot k+i –1 (col. 7, lines 66-67, col. 8, lines 1-20);

c) allocating the medium to the station that has performed the step b.2) without receiving the transmission symbol (col. 8, lines 21-36).

Regarding to claim 5, Punkaj et al teach the method according to claim 4, comprising a step b.0) preliminary to the step b.1) for the transmission of the transmission symbol by the station Si and wherein the steps b.1), b..1.1), b.1.2) may be carried out on identification slots varying from k +1 to k+n (col. 8, lines 1-20, col. 11, lines 12-54).

Regarding to claim 6, the combination of Pankaj et al and Schaeffer et al teach the method according to claim 4 using binary encoding (Punkaj: col. 4, lines 46-65) and the reception operation "receive 1" when a station detects a signal coming from another station and "receive 0" when it receives no signal and the "send 1" operation when the station transmits a signal in a given slot (Schaeffer: col. 5, lines 27-46).

Regarding to claim 7, Pankaj et al teach the method according to claim 4, using an identification number taken in an interval [0, N-1] with N=2^n (col. 11, lines 12-40).

Regarding to claim 8, the combination of Pankaj et al and Schaeffer et al teach the method according to claim 1, wherein the broadcasting medium is a radio station and wherein the stations are transmitter-receiver units (Pankaj : col. 1, lines 21-33, Schaeffer: col. 1, lines 12-24).

Regarding to claim 9, Punkaj et al teach a method for the allocation of access to a broadcasting medium by several stations Si, wherein the stations are provided with a digital processing circuit adapted to executing the steps of a method comprising the following steps:

defining a graph of competition between the different stations;

assigning time intervals to each station in making successive passages on all the stations and carrying out the following steps at each passage and for each station (col. 1, lines 34-49):

E is an interval of given time interval numbers (col. 12, lines 55-57)

n is the smallest natural integer that does not belong to the interval E (col. 12, lines 58-59),

if it is not the first passage AND if n>Nmax, then no time interval whatsoever is added to the station Si (fig. 5, col. 8, lines 5-20, col. 9, lines 27-42);

if it is the first passage OR if n=<Nmax, then n is added to the time intervals assigned to Si (fig. 7 (a-b), col. 11, lines 55-67, col. 12, lines 3-34);

the loop of the passages is continued on all the stations:

if, during a passage, no time interval has been added to any station, then no other passage is made; if, during a passage, at least one time interval has been added, then a new passage is executed (fig. 6 (a-c), col. 11, 12-54).

Pankaj et al **do not teach** a method for the allocation of access to a broadcasting medium by several stations Si, wherein the stations are provided with a digital processing circuit adapted to executing the steps of a method comprising the following steps: defining a graph of competition between the different stations.

However in the same field of invention, Schaeffer et al teach a method for the allocation of access to a broadcasting medium by several stations Si (abstract, col. 3, lines 9-25), wherein the stations are provided with a digital processing circuit adapted to executing the steps of a method comprising the following steps: defining a graph of competition between the different stations (col. 2, lines 21-30);

Therefore it would have been obvious to one of the ordinary skill in the art of the invention to combine the teaching of Pankaj et al and Schaeffer et al a method for the allocation of access to a broadcasting medium by several stations. It is beneficial because it provides for initial resource allocation as well as periodic system returning for enhanced system operation and efficiency.

Regarding to claim 10, Punkaj et al teach the method according to claim 9 wherein the interval E corresponds to a combination of the time interval numbers already assigned to a station Si during preceding passages (col. 12, lines 55-67) and time intervals already assigned to the stations Sj which are related to Si by a particular relationship known as a relationship of competition (col. 13, lines 1-15).

Regarding to claim 11, the combination of Pankaj et al and Schaeffer et al teach the method according to claim 9, wherein the graph of the relationship of competition (Schaeffer: col. 2, lines 21-30) is set up according to the following steps: from a relationship of visibility written as R, a relationship of competition between stations, referenced C, is determined as follows (Punkaj: col. 6, lines 47-65):

two stations Si and Sj are in competition, SiCSj if and only if

(SiRSj and (NOT SjRSi))

or

(SjRSi and (NOT SiRSj))

or

(∃ Sk such that SkRSi AND SkRSj AND NOT (SiRSj and SjRSi)) (Punkaj: col. 7, lines 1-24, col. 7-8, lines 65-67, 1-20).

Regarding to claim 12, Pankaj et al teach the method according to claim 9, wherein the digital processing circuit is adapted for executing the following steps:

a) encoding the identifier I of each of the stations, on a number n of bits b1,b2, . . bn, using two symbols corresponding respectively to a reception state and to a transmission state (col. 4, lines 46-65);

b) for any unspecified station Si, during an attempt to make transmission, starting at a given identification slot (col. 13, lines 1-15);

b.1)for i varying from 1 to n, b.1.1) if the value of bi is equal to the symbol corresponding to the reception state, the station Si receives during the slot k+i-1: if the station Si detects a signal sent by another station it considers itself not to be chosen; if the station Si detects nothing, the station Si continues to scan the bits bi (col. 8, lines 1-20), b.1.2) if the value of bi is equal to the symbol corresponding to the transmission state, the station transmits during the slot k+i –1 (col. 7, lines 66-67, col. 8, lines 1-20);

c) allocating the medium to the station that has performed the step b.2) without receiving the transmission symbol (col. 8, lines 21-36).

Regarding to claim 13, Punkaj et al teach the method according to claim 12 wherein it comprising a step b.0) preliminary to the step b.1) for the transmission of the transmission symbol by the station Si and wherein the steps b.1), b..1.1), b.1.2) may be carried out on identification slots varying from k +1 to k+n (col. 8, lines 1-20, col. 11, lines 12-54).

Regarding to claim 14, the combination of Punkaj et al and Schaeffer et al teach the method according to claim 12 using binary encoding (Punkaj: col. 4, lines 46-65) and

the reception operation "receive 1" when a station detects a signal coming from another station and "receive 0" when it receives no signal and the "send 1" operation when the station transmits a signal in a given slot (Schaeffer: col. 5, lines 27-46).

Regarding to claim 15, the combination of Punkaj et al and Schaeffer et al teach the method according to claim 9 wherein the broadcasting medium is a radio station and wherein the stations are transmitter-receiver units (Pankaj : col. 1, lines 21-33, Schaeffer: col. 1, lines 12-24).

Regarding to claim 16, Pankaj et al teach the method according to claim 9 comprising a station configuration device that is separate from the stations (col. 2, lines 19-22).

Regarding to claim 17, the combination of Punkaj et al and Schaeffer et al teach the method according to claim 5, using binary encoding (Punkaj: col. 4, lines 46-65) and the reception operation "receive 1" when a station detects a signal coming from another station and "receive 0" when it receives no signal and the "send 1" operation when the station transmits a signal in a given slot (Schaeffer: col. 5, lines 27-46).

Regarding to claim 18, the combination of Punkaj et al and Schaeffer et al teach the method of claim 13, using binary encoding (Punkaj: col. 4, lines 46-65) and the reception operation "receive 1" when a station detects a signal coming from another

station and "receive 0" when it receives no signal and the "send 1" operation when the station transmits a signal in a given slot (Schaeffer: col. 5, lines 27-46).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Robertson et al teach system and method for creating and managing survivable, service hosting networks. Shedlo teaches method of allocating communication resources in a communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Umar Cheema whose telephone number is 571-270-3037. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on 571-272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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